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Brain cystogenesis capacity of *Toxoplasma gondii*, avirulent Tehran strain in mice

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PEER REVIEW

Peer reviewer

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Comments

This is a good study about the Tehran strain of *T. gondii*, genotype II. This strain is cyst forming and maintained by inoculation of bradyzoites in mice. This is the first study about the variation of brain cystogenesis capacity of *T. gondii*, Tehran strain in mice.

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ABSTRACT

Objective: To investigate the brain cystogenesis capacity of Tehran strain of *Toxoplasma gondii* (*T. gondii*) that had been isolated from a patient with lymphadenitis in 1973.

Methods: A volume of 0.5 mL mice brain suspension containing 20 tissue cysts of Tehran strain of *T. gondii* was inoculated intraperitoneally to each of 25 male BALB/c mice. The number of brain cysts was counted in unstained squash-smears for 10 mice during weeks 7–9 and for 15 mice during weeks 13–14 post-infection. Nonparametric test of Mann-Whitney was used to demonstrate means differences.

Results: There was a significant difference in the means for the number of brain cysts between weeks 7–9 (228.3±144.8) and weeks 13–14 (1 239.8±429.3) post-infection ($P<0.05$). The minimum and the maximum of cysts were 70 and 1 531 during weeks 7–9 post-infection, and 12 and 5 170 during weeks 13–14 post-infection, respectively. The mean number of brain cysts in the right cerebral hemisphere was insignificantly higher than that of the left cerebral hemisphere. Furthermore, the number of cysts counted in the right or the left hemispheres was significantly higher than those enumerated for cerebellum+brain stem altogether.

Conclusions: It is concluded that the brain cystogenesis capacity of *T. gondii*, Tehran strain shows enormous variation in mice regarding the duration of infection. In addition, the cystogenesis observed in cerebellum+brain stem is lower than the right and left cerebral hemispheres.

KEYWORDS

Toxoplasma gondii, Tehran strain, Brain cyst, Mouse